

CLAIMS

[1] A linear motor comprising:

a mover part including; an armature module having an I shaped magnetic iron core and an armature winding of one kind wound on the periphery of the I shaped magnetic iron core through an insulating material, a non-magnetic material holder on which a plurality of armature modules are arranged in a stroke direction, and a base upper plate and a base lower plate for attaching the non-magnetic material holder in upper and lower parts respectively, and

a stator part including; a plurality of field permanent magnets opposed to the I shaped magnetic iron cores through magnetic spaces and field yokes for supporting the field permanent magnets, wherein

the non-magnetic material holder has at both end parts thereof through holes corresponding to the forms and the arranging pitches of the I shaped magnetic iron cores, and bolts are inserted into the through holes to fix the non-magnetic material holder to the base upper plate and the base lower plate.

[2] A linear motor comprising:

a mover part including; an armature module having an I shaped magnetic iron core and an armature winding of one kind wound on the periphery of the I shaped magnetic iron core through an insulating material, and a base upper plate and a base lower plate to which a plurality of armature modules are respectively attached in upper and lower parts thereof, and

a stator part including; a plurality of field permanent magnets opposed to the I shaped magnetic iron cores through magnetic spaces and field yokes for supporting the field permanent magnets, wherein

in both the end parts of the base upper plate and the base lower plate and the I shaped magnetic iron cores, pin holes corresponding to the forms and the arranging pitches of the I shaped magnetic iron cores are formed, and pins are inserted into the pin holes to fix the I shaped magnetic iron cores between the base upper plate and the base lower plate.

[3] The linear motor according to claim 2, wherein

the pin hole is a hole penetrating the I shaped magnetic iron core, and

the pin is a long penetrating pin.

[4] The linear motor according to claim 2 or 3, further comprising:

sub-teeth for canceling a cogging due to an end effect generated in both ends of the armatures provided in front and rear ends in the stroke direction of a group of the armature modules, wherein

pin holes are formed on both the end parts of the base upper plate and the base lower plate and the sub-teeth, and

pins are inserted into the pin holes to fix the sub-teeth between the base upper plate and the base lower plate.

[5] The linear motor according to claim 1 or 2, wherein

a gap part of the armature winding is filled with a mold resin.

[6] An attraction force cancel type linear motor in the linear motor according to any one of claims 1 to 5, further comprising:

a same stator part provided at a symmetrical position to the stator part with respect to the mover part in an opposite side to the stator part by sandwiching the mover part in therebetween.

[7] The attraction force cancel type linear motor according to claim 6, wherein

a guide part of a linear guide is fixed to the lower side of the base lower plate.